

Notice

Environmental Protection Act 1994

Environmental Evaluation

Notice to conduct or commission an environmental evaluation

This notice to conduct or commission an environmental evaluation is issued by the administering authority pursuant to section 326B of the Environmental Protection Act 1994.

Copperchem Ltd
Level 2, 160 Pitt Street
SYDNEY NSW 2000

Your reference: EPML00876013

Our reference: 101/0088742

DATE OF ISSUE: 12 June 2014

Take notice: that under the *Environmental Protection Act 1994* (the Act) a notice to conduct or commission an environmental investigation is issued to Copperchem Ltd (you) by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Heritage Protection (the department).

The notice to conduct or commission an environmental investigation is issued in respect of the activities of you at Mining Leases 90065 and 90108, Great Australia Mine, situated at Round Oak Road, located approximately 2 kilometres south of Cloncurry (the site).

A. Grounds

The notice to conduct or commission an environmental investigation is issued on the following grounds:

- Pursuant to section 326B of the *Environmental Protection Act 1994*, an environmental investigation is required;
 - (1) *If the administering authority is satisfied on reasonable grounds that –*
 - (b) *an activity or proposed activity is causing, or is likely to cause environmental harm.*

The facts and circumstances forming the basis for these grounds are:

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Background

- 1) Environmental Authority EPML00876013 (the EA) was issued to you by the administering authority in respect of carrying out mining activities on Mining Leases 2751, 6710, 7510, 90065, 90108.
- 2) The EA authorises mining activities and limits environmental harm that can lawfully be caused.
- 3) Mining activities conducted on the site by you include the operation of dams, heap leach pads and channels lined with high density polyethylene liner (HDPE) for storage and conveyance of process waters.

Groundwater Contamination

- 4) In accordance with Schedule C - Condition (C38) of the EA, you are required to monitor the quality and level of water in groundwater bores stipulated in Schedule C – Table C10 (Groundwater Monitoring Locations and Frequency) of the EA.
- 5) In accordance with Schedule C - Condition (C43) and (C44) of the EA, you are required to monitor the quality of groundwater in leak detection bores stipulated in Schedule C – Table C12 (Leak Detection Devices) of the EA.
- 6) The quality of water detected in monitoring locations stipulated in Schedule C – Table C10 (Groundwater Monitoring Locations and Frequency) and Schedule C – Table C12 (Leak Detection Devices) of the EA must not exceed the release limits specified in Schedule C – Table C11 (Groundwater Contaminant and Trigger Limits) of the EA.
- 7) The release limit for sulfate as stipulated in Schedule C – Table C11 (Groundwater Contaminant and Trigger Limits) of the EA is 1,000 milligrams per litre (mg/L).
- 8) The release limit for sulfate is equivalent to the guideline value specified in section 4.3 of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (ANZECC 2000) for livestock drinking water quality guideline which is applicable as the groundwater release limit due to bore water being used in the Cloncurry district for livestock watering purposes. Groundwater may also express to surface waters such as the Coppermine Creek which runs adjacent to the site and is also utilised for livestock watering purposes.
- 9) It is stated in ANZECC 2000 that adverse effects may occur to the health of stock at sulfate concentrations between 1,000 and 2,000 mg/L and concentrations of sulfate above 2,000 mg/L may cause chronic or acute health problems in stock.
- 10) Copper sulfate and copper concentrate is produced by the mining activities undertaken at the site. The geochemistry of the waste products generated by the mineral processing undertaken on the site includes sulfate, cobalt, copper and zinc.
- 11) On 21 November 2013 you submitted monitoring results to the department of groundwater sampled in the groundwater monitoring points and leak detection monitoring points on the site for the period April 2012 to November 2013. The monitoring results confirmed that the concentration of sulfate had exceeded the sulfate release limit for the following monitoring points:

Groundwater Monitoring Points:

- i) OB1, OB2, OB3, OB4, OB5, OB6, OB7, OB8, OB9, OB10, OB11, OB12, OB13, OB14, OB16, OB17: 252 out of the total 335 groundwater samples for the period exceeded the sulfate release limit of 1,000 mg/L; and

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- ii) OB2, OB3, OB5, OB6, OB10, OB12 and OB16: consistently exceeded the sulfate release limit of 1,000 mg/L for the period.

Leak Detection Monitoring Points:

- iii) HLP Cell Bore 1: exceeded the release limit of 1,000 mg/L on 31 May 2013 with a result of 67,100 mg/L;
 - iv) PLS Pond East LD: exceeded the sulfate release limit of 1,000 mg/L on 3 May 2013 with a result of 72,000 mg/L and exceeded the release limit of 1000 mg/L on 31 May 2013 with a result of 69,000 mg/L; and
 - v) PLS Pond West LD: exceeded the sulfate release limit of 1,000 mg/L on 31 May 2013 with a result of 70,600 mg/L.
- 12) There is no reference groundwater quality data available for analytical purposes as appropriate reference groundwater bores have yet to be identified for the site. In lieu of reference data, it has been identified that the sulfate concentration at groundwater monitoring point OB15, which is located furthest from any mining disturbance, has not recorded exceedences of the release limit for sulfate and therefore indicates that the contaminants being detected at the groundwater monitoring points and leak detection monitoring points on the site are a result of mining activities undertaken at the site by you.
 - 13) The leak detection monitoring point data shows that the leak detection bores were dry between April 2012 and Nov 2013, but from May 2013 onwards contaminants have been detected. The sulfate concentrations detected at the leak detection monitoring points is significantly greater than the concentrations detected at the groundwater monitoring points which indicates that the results detected at the leak detection monitoring points is related to mining activities and not groundwater infiltration.
 - 14) The sulfate concentration detected at the leak detection monitoring points is significantly greater than the ANZECC 2000 livestock water quality guideline value and ANZECC 2000 95% ecosystem protection water quality guideline value and is therefore likely to cause environmental harm if used for livestock watering and/or expresses to surface waters.
 - 15) From 25 to 27 November 2013 authorised officers from the department undertook a compliance inspection of the site.
 - 16) On 26 November 2013 authorised officers from the department obtained a water sample from groundwater monitoring point compliance bore OB2. The sample was analysed and determined to have a sulfate concentration of 1,860 mg/L exceeding the release limit stipulated in Schedule C – Table C11 (Groundwater Contaminant and Trigger Limits) of the EA.

Incidents Potentially Contributing to Groundwater Contamination

- 17) In accordance with Schedule A – Condition (A16) of the EA you are required to notify the department of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of the EA.
- 18) Between August 2013 and May 2014 you reported nine (9) incidents to the department relating to releases of contaminants to land. The incidents have the potential to result in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of the EA.
- 19) The incidents highlight an ongoing failure of infrastructure at the site. The frequency of the incidents suggests that the mining infrastructure is ageing and prone to failure resulting in releases to land and the potential for groundwater contamination.

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- 20) The department considers that these incidents have the potential to cause environmental harm and contribute to groundwater contamination at the site and in the receiving environment.
- 21) The department is satisfied that mining activities at the site are likely to cause environmental harm.

B. Requirements

The environmental investigation must address the following relevant matters:

1. Assess the actual and potential impact of the contaminants released from the site as a result of the mining activities to groundwater on the environmental values of the receiving environment. The investigation must:
 - a) Identify and define the environmental values of the receiving environment in accordance with ANZECC 2000 methodology;
 - b) Include an assessment of the impacts on the environmental values identified for groundwater;
 - c) Include a comparison and review of previous relevant studies undertaken; and
 - d) Include identification of and comparison with the groundwater quality at relevant reference sites.
2. Identify the reason for discharge and distribution of contaminants, including but not limited to sulfate, from the site in groundwaters in the receiving environment.
3. Undertake an assessment of the site water management system and infrastructure in place at the site as it relates to groundwater quality. This assessment must include but not be limited to:-
 - a) Review the water management system in terms of protection of groundwater quality from impacts of mining activities with specific reference to the heap leach operation; and
 - b) Identify the following:
 - i) Location and types of groundwater aquifers;
 - ii) Groundwater contours and levels for contaminants which include but not limited to sulfate at the site and receiving environment;
 - iii) Existing measures for mitigation of groundwater impacts;
 - iv) Maintenance and replacement procedures for mining infrastructure, including but not limited to pumps, pipes and liners.
4. Include a report that details all relevant options and detailed remedial works required to address the cause of contamination and impacts on the receiving environment. Remediation options must ensure protection of the environmental values of the receiving environment.
5. For the receiving environment that has been affected by the release of contaminants from the site obtain prior permission from the respective landholders of those places for entry to those places for the purpose of:
 - a) Inspecting, examining, measuring, testing, photographing or filming;
 - b) Taking samples;
 - c) Recording, measuring, testing or analysing things;
 - d) Remediation works.
6. The administering authority must be notified within 48 hours if access to land beyond the site is not granted from the respective landholders to conduct activities identified above.

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7. The environmental investigation must be carried out, and the environmental report prepared, by a suitably qualified person.
8. The environmental report must be submitted to the department on or before:
 - **6 October 2014;** and
 - Addressed to:
Department of Environment and Heritage Protection
PO Box 7230
Cairns QLD 4870

As the recipient of this notice, you are also required to provide a statutory declaration in the form attached, to accompany the environmental report submitted to the department. The suitably qualified person who prepares the environmental report must also provide a statutory declaration in the form attached to accompany the environmental report submitted to the department.

You can view an electronic version of the statutory declaration for a recipient using the following search term (EM494).¹

An electronic version of the statutory declaration for a suitably qualified person form is available using the search term (EM471).

Take notice:

1. the requirements of the notice to conduct or commission an environmental investigation take effect immediately upon service of this notice;
2. this notice remains in force until further notice from the department; and
3. you are responsible for meeting the costs of conducting or commissioning the environmental investigation, preparing the environmental report and providing any further information as requested by the department.

C. Definitions

"receiving environment" means all groundwater, surface water, land and sediments within two (2) kilometres of the boundary of the site, including but not limited to Coppermine Creek and connected waterways.

"suitably qualified person" means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.

D. Reviews and appeals

The provisions regarding reviews of decisions and appeals are found in sections 519 to 539 of the Act.

A person who is dissatisfied with certain decisions of the department, may be able to apply to have the department review that original decision.

Generally, a request to have a decision reviewed must be made:

- within 10 business days of the decision being notified to the person;

¹ This is the publication number. The publication number can be used as a search term to find the latest version of a publication at <www.ehp.qld.gov.au>.

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- be supported by enough information to enable the department to decide the application for review; and
- be made using the application for review of an original decision form (EM709).

Where an application has been made for a decision to be reviewed, the applicant may also apply to the relevant court for a stay of the decision to secure the effectiveness of the review.

Once the original decision has been reviewed, a person who is dissatisfied with the review decision may be able to appeal against that decision to the relevant court within 22 business days after receiving notice of the review decision.

A person whose interests are or would be adversely affected by a decision of the department may also be able to request a statement of reasons for a decision or a statutory order review under the *Judicial Review Act 1991*.

For further information about reviews and appeals see the:

1. [Information sheet - internal review and appeal to the Planning and Environment Court \(EM1866\).](#)
2. [Information sheet - internal review and appeal to the Land Court \(EM1157\).](#)

You may have other legal rights or obligations and should seek your own legal advice.

E. Penalty

Failure to comply with a notice to conduct or commission an environmental evaluation is an offence.

1. The maximum penalty for an individual is 300 penalty units, totalling \$33,000.
2. The maximum penalty for a corporation is 1500 penalty units, totalling \$165,000.

Should you have any queries in relation to this notice, please contact Arun Baskaran of the department on telephone number (07) 4222 5328.



Signature



Date

Dean Sharpe

Delegate of the Chief Executive
Department of Environment and Heritage Protection
Environmental Protection Act 1994

Enquiries:

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